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Nabil A. Abu El Ata

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

530 VIRGINIA ROAD

P.O. BOX 9133

CONCORD, MA 01742-9133

EXAMINER

SAXENA, AKASH

ART UNIT

PAPER NUMBER

2128

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/942,096	EL ATA, NABIL A. ABU	
	Examiner	Art Unit	
	Akash Saxena	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/12/04, 8/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-24 have been presented for examination based on the application filed on August 28, 2001.

Priority

2. Acknowledgement is made of applicant's claim in the instant application for priority based on U.S. Provisional Application No. 60/228,702, filed on August 29, 2000 and is a continuation-in-part of U.S. Application No. 09/606,869, filed June 29, 2000, which claims the benefit of U.S. Provisional Application No. 60/142,313, filed on July 2, 1999. This application (further claims priority to) is also a continuation-in-part of U.S. Application No. 09/127,191, filed July 31, 1998 (now U.S. Patent 6,311,144, issued October 30, 2001), which claims the benefit of U.S. Provisional Application No. 60/085,350, filed on May 13, 1998.

Claim Objections

¶ 6.18 Series of Singular Dependent Claims

A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim. A claim, which depends from a dependent claim, should not be separated by any claim, which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

3. Claim 22 is objected to, under 37 CFR 1.75, as being dependent on claim 1 and being listed after independent claim 11. Appropriate corrections are required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding Claims 1, 11 & 21

Claim 1 is rejected because the disclosed process/system is not tangibly embodied. It appears from the specification that technological layer that embodiment requires software as well as hardware. Consequently, examiner respectfully suggests that applicants consider using phrases like "computer implemented process", "computer model", "constructing a multi-layer mathematical model of a system architecture implements on a computer".

Regarding Claim 23

Claims 23 is rejected because a "computer-usable medium" as defined in the specification also include "communications or transmission medium, such as a bus or a communications link, either optical, wired, or wireless, having program code segments carried thereon as digital or analog data signals", which are non-statutory subject matter. Therefore the claim as whole does not constitute tangible matter.

Appropriate corrections are required.

Regarding Claim 24

Claim 24 is rejected as being unpatentable under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, carrier wave per se.

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Carrier wave are not considered tangible medium and hence software instructions & data (intangible matter by itself) on a carrier wave is not a tangible matter.

Claims 2-10 & 22 and 12-20 are rejected on basis their dependency upon claims 1 and 11 respectively.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. § 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected under the judicially created doctrine of obviousness-type

double patenting as being unpatentable over claim 21 & 22 of U.S. Patent No.

6,560,569.

Application 09/942096	U.S. Patent No. 6,560,569
A process for designing a model based system architecture, comprising: providing a business process design, the business process design describing a plurality of <u>business processes</u> and defining a set of <u>business requirements</u> for each business process;	(Claim 18, Parent claim of claim 21 & 22) A method for designing an information system, comprising: receiving descriptive input of a target information system, said <u>descriptive input including descriptions of business processes and business functions</u> ;
constructing a <u>multi-layer mathematical model</u> of a system architecture supporting the business process design, the layers of the multi-layer model comprising a business layer, <u>an application layer, and a technology layer</u> ,	(Claim 18) and designing a multi-layer mathematical model of said target information system from said quantitative input, said <u>multi-layer mathematical model</u> designed prior to implementation of said target information system, said layers of said multi-layer model comprising a <u>business layer, an application layer, and a system/network layer</u> ,

<p>modeling performance metrics for <u>each layer of the multi-layer model</u> of the system architecture;</p>	<p>(Claim 18) <u>modeling performance of said software components</u>, including modeling performance of said software components presenting service requests to said <u>system/network layer</u>, said system/network layer, responsive to said generated data and said service requests, <u>modeling performance of said hardware components</u>, including modeling performance of said hardware components generating processing and servicing data, said processing and servicing data of said system/network layer factored into said <u>business layer and said application layer</u>, and the modeled performance of said <u>hardware components being factored into the modeled performance of said software components and the modeled performance of said business processes and said business functions</u>, and the modeled performance of said software components being factored into the modeled performance of said business processes and said business functions.</p> <p>(Claim 22) <u>further comprising calculating performance metrics for said multi-layer model at each layer.</u></p>
<p><u>comparing the modeled performance metrics</u> with the set of business requirements for each business process, said <u>comparing producing respective indications of unacceptable performance metrics</u> of one or more business processes that do not satisfy the set of business requirements defined for them based on the produced indications;</p> <p>and <u>determining modifications to the system</u></p>	<p>(Claim 21) determining estimates of performance values for said multi-layer model; and <u>calibrating said multi-layer model by comparing said estimates to performance value benchmarks of the plurality of hardware component models and software component models.</u></p> <p>(Claim 20) further comprising: incorporating at</p>

<u>architecture.</u>	least one component model selected from a plurality of hardware component models and software component models into said multi-layer model.
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Although the conflicting method claims are not identical, they are not patentably distinct from each other because claims 21 & 22 of the '569 patent teaches all the limitations of the claim 1 of the instant application as underlined in the table above. Particularly, claim 21 of the '569 patent also teaches calibrating the multilayer using a transformer ('569 patent: Col .18 Line 39-45) to attain the convergence between the model computer matrices and the observed matrices. In case transformer is unable to converge it constructs new models ('569 patent: Col. 18 Line 48-53) and proposes new model for changes to selection ('569 patent: Col .18 Line 64-67, Col .19 Line 1-6). These proposed change is considered "determining modification to the system architecture". The non-underlined portions of the patented claims have been omitted from the prosecution of claims in the present application.

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to take claims of '569 patent and apply them to the instant application because such omission would have simplified the process of designing the model based system architecture.

6. Claim 11 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3-5 of U.S. Patent No. 6,311,144.

Application 09/942096	U.S. Patent No. 6,311,144
(Claim 11) A system for designing a model based system architecture, comprising: a <u>business process design</u> , the business process design describing a <u>plurality of business processes</u> and defining a set of <u>business requirements</u> for each business process;	(Claim 1, Parent claim of claim 5) An apparatus for designing an information system, said apparatus comprising: an input module for receiving <u>descriptive input of a target information</u> system, said descriptive input including descriptions of <u>business processes and business functions</u> [Requirements encompassing the business functions associated to business processes];
an architecture construction module responsive to the business process design, the architecture construction module constructing a <u>multi-layer mathematical model</u> of a system architecture supporting the business process design, the layers of the multi-layer model comprising a <u>business layer, an application layer, and a technology layer</u> ;	(Claim 1) designing an initial <u>multi-layer mathematical model</u> of said target information system based on said quantitative input, said layers of said mathematical model comprising a <u>business layer, an application layer, and a system/network layer</u> [technology dependent layer], said business layer generating data for said application layer and said system/network layer, said application layer responsive to said generated data presenting service requests to said system/network layer, said system/network layer responsive to said generated data and said service requests generating processing and servicing data, said processing and servicing data of said system/network layer factored into said business layer and said application layer, [system architecture supporting the business design]
a <u>performance modeling module</u> coupled to the	(Claim 1)

<p><u>architecture construction module</u>, the performance modeling module <u>modeling performance metrics for each layer</u> of the multi-layer model of the system architecture;</p>	<p>a <u>performance metrics module</u> for evaluating said designed initial model and said at least one additional model, <u>said performance metrics module calculating performance metrics for said designed initial model</u> and said at least one additional model at each layer;</p> <p>(Claim 4)</p> <p>a library comprising hardware component models and software component models adapted for use in said initial model and said at least one additional model, <u>wherein said construction module uses at least one component model selected from said hardware component models and said software component models</u> when creating one of said initial model and said at least one additional model.</p>
<p>a <u>comparison module</u> coupled to receive the <u>modeled performance metrics</u> and the business process design, the comparison module comparing the modeled performance metrics with the set of business requirements for each business process and determining unacceptable performance metrics of one or more business processes that do not satisfy the set of business requirements defined for them;</p>	<p>(Claim 3)</p> <p>An apparatus as in claim 1, wherein said <u>output module provides a comparison</u> of said initial model and said at least one additional model based on said performance metrics and a designer of said information model selects one of said initial model and said at least one additional model as a preferred information system design based on said comparison.</p>
<p>a rule-based modification engine, the rule-based engine determining modifications to the system architecture in order to improve the unacceptable performance metrics determined by the comparison module;</p>	<p>See outside the table for explanation.</p>
<p>and an <u>output module</u> coupled between the <u>rule-</u></p>	<p>(Claim 3)</p>

<u>based engine</u> and the <u>architecture construction module</u> , the output module <u>proposing the determined modifications</u> to the model of the system architecture.	wherein said <u>output module provides a comparison</u> of said initial model and said at least one additional model <u>based on said performance metrics</u> and a designer of said information model selects one of said initial model and <u>said at least one additional model as a preferred information system</u> [Some sort of rule based selection is implied] design based on said comparison [provides comparison between additional & initial model]. Claim 4 in the same patent discloses a construction module.
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Although the conflicting apparatus claims are not identical, they are not patentably distinct from each other because claim 5 of the '144 patent teaches all the limitations of the claim 11 of the instant application, claim 11 being the broader version of the claims 5. Claim 5 inherits all its limitation from its preceding dependent and independent claims and discloses a multilayer mathematical model, which can be optimized and presented as an output. A rule-based engine is obvious in the claim 5, which discloses automating the calibration process ('144 patent: Col.18 Lines 26-29) and use of transformer, where calibration must have some basis, i.e. an engine to drive the calibration process.

Patents 6,560,569 and 6,311,144 share the same specification, hence the function of transformer to converge and propose new models as discussed in '569 patent above also applies here.

The non-underlined portions of the patented claims have been omitted from the prosecution of claims in the present application.

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to take claims of '144 patent and apply them to the instant application because such omission would have simplified the process of designing the model based system architecture.

7. Claim 21 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of U.S. Patent No. 6,560,569.

Application 09/942096	U.S. Patent No. 6,560,569
A system for designing a system architecture, comprising: <u>means for receiving a business process design</u> , the business process design describing a <u>plurality of business processes</u> and defining a set of <u>business requirements</u> for each business process;	Claim 12 An apparatus for designing an information system, comprising: an input module for <u>receiving descriptive input</u> of a target information system, said descriptive input <u>including descriptions of business processes and business functions</u> , said input module deriving validated input from said descriptive input;
means for constructing a <u>multi-layer mathematical model</u> of a system architecture supporting the <u>business process design</u> , the layers of the multi-layer model comprising a <u>business layer, an application layer, and a technology layer</u> ; means for modeling performance metrics for each layer of the multi-layer model of the system architecture;	designing a <u>multi-layer mathematical model</u> of said target information system based on said quantitative input, said layers of said multi-layer model comprising <u>a business layer, an application layer, and a system/network layer</u> [technology layer];
means for <u>comparing the modeled performance metrics with the set of business requirements</u> for each business process; means for <u>determining modifications</u> to the system architecture in order to improve unacceptable performance metrics of one or more business processes that do not satisfy the set of business requirements defined for them;	(Claim 13) further comprising: a performance metrics <u>module calculating performance metrics</u> for said multi-layer model at each layer. Claim 17 wherein said output module providing a <u>comparison of said multi-layer model and said at least one additional multi-layer model based on said performance metrics</u> .
and <u>means for proposing the modifications</u> to the	Claim 17 as stated above discloses an output

model of the system architecture.	module to output (propose) modifications.
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Although the conflicting apparatus claims are not identical, they are not patentably distinct from each other because claim 17 of the '569 patent teaches all the limitations of the claim 21 of the instant application, claim 21 being the broader version of the claims 17.

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to take claims of '569 patent and apply them to the instant application because such omission would have simplified the process of designing the model based system architecture.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-5, 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over EUROEXPERT - Best Practices: French Social Security - UNEDIC dated 1992 in view of IEEE article – “An Introduction To Six Sigma With Design Example” by Robert White dated 1992.

Regarding Claim 1

EUROEXPERT Best Practices document discloses

“A process for designing a model based system architecture, comprising: providing a business process design, the business process design describing a plurality of business processes and defining a set of business requirements for each business process; constructing a multi-layer mathematical model of a system architecture supporting the business process design, the layers of the multi-layer model comprising a business layer, an application layer, and a technology layer;”

as a tiered model GATE model identical to claimed model application that collects measurements from 3 domains, namely, business domain/layer, application domain, technology/system/network domain, illustrated by a figure called “Modeling Business Value Chain” (EUROEXPERT Best Practices: Col 2). This model incorporates the business goals and characteristics of the system design. It can be seen from the reference that this model captures the business requirements for business processes as well as delegates them to 3 layers. The public knew about this model in February 1992 (EUROEXPERT Best Practices: Col 2, Lines 16-18).

Although the EUROEXPERT Best Practices article discloses the results of the 3-tiered business model, it does not teach specifically modeling the performance matrix of the for each layer, simulating, comparing them to the requirements, acceptability, proposing & modifying the matrix at appropriate layers.

White's article teaches how six-sigma methodology can be used to perfect any process, system or component. This process has its mathematical roots in statistics. The process itself has six steps, namely, identify the required function, specify performance requirements, determine component variation, characterize performance and revise design to meet six-sigma mathematical requirement, repeat previous steps to get higher quality results (White: Pg 32, Col. 2, Design Example).

White further discloses,

"modeling performance metrics for each layer of the multi-layer model of the system architecture;"

as the components and their variations can be modeled using an electrical circuit example (White: Pg 33, Col. 1, D Step 3, Line 3-8). These components can then be simulated to measure their performance using various mathematical & statistical calculation, White discloses circuit example with Monte Carlo simulation (White: Pg 33, Col 2, 2nd Paragraph).

White further discloses,

"comparing the modeled performance metrics with the set of business requirements for each business process, said comparing producing respective indications of unacceptable performance metrics of one or more business processes that do not satisfy the set of business requirements defined for them based on the produced indications;"

as results of such a simulation are compared against the expected values (White: Pg 34, Col. 1, 1-6 & Figure 4). The figure (White: Figure 4) disclosed shows the unacceptable performance as compared to the expected results.

White further discloses,

"and determining modifications to the system architecture."

as replacing the instant model and taking other models & values for the sub-components to enhance and meet performance (White: Pg 34, Col. 1, F Step 5, Line 1-8 & Table V). Modifications are suggested after the results from these simulations are gathered – i.e., in the circuit example used components of higher tolerances are suggested (White: Pg 34, Col. 1, F Step 5, Line 15-16). The reference teaches narrower versions of broader claims in the application. Here a simple electric circuit example teaches a abstract methodology that can be applied to much bigger multi-tiered system as claimed.

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to take White's teaching and apply them to EUROEXPERT - Best Practices GATE model disclosed above. The motivation to do so would be a system than can be simulated with various components to meet the requirements. Six-sigma process is disclosed as a way of doing business (White: Pg 28, Col. 1, A. What is Six Sigma, Line 6-9) to increase quality & competitive pricing (White: Pg 28, Col. 2, B "Why Pursue Six Sigma?" Line 1-6), which are also very good business motivations.

Regarding Claim 2

As disclosed above, White proposes performance matrix modification, update and comparison (White: Pg 34, Col. 1, 1-6 & Figure 4). He discloses the circuit component that gives the best results for the quality/cost level (White: Pg 34, Col. 2, 1-3 & Table V). White further discloses a matrix of components with various tolerances and how they are used to access the performance of the circuit (White:

Pg 33, Figure 3 & Pg 34, Table V & VI). The output of his analysis is selection of the component, which is least expensive and highest quality (White: Pg 34, Col. 2, 1-3).

Regarding Claim 3

As disclosed above, White identifies, evaluates various components required in the circuit (White: Pg 33, Col. 1, Figure 3). Searching the data store for various components is implicit, as he has already identified the all variations with different tolerances (White: Pg 33, Col. 1, Table 2).

Regarding Claim 4

White suggests that replacement of components be done one at a time to accurately calculate improved performance (White: Pg 34, Col. 1, F Step 5, Line 1-8 & Table V).

Regarding Claim 5

EUROEXPERT & White do not teach modifying the business model if the supporting components models in application and technology layers have unacceptable performance metrics. However, It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to modify the business model when the supporting components models are not able to meet performance as it is well-known in the art that business model need to be changed when the underlying application or technology is unable to support the business goals.

Regarding Claim 21

Claim 21 is rejected for the same reasons as claims 1 & 2.

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Regarding Claim 22

Although none of the teachings show generation of system architecture based on the model disclosed, they disclose some form of the output. Since the modeling technique disclosed by White is used for each layer in the EUROEXPERT reference, it would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to create a composite model of the all layers yielding an output architecture of the model, as it is well-known in the art that all complex systems must have an underlying architecture to be modeled and implemented correctly.

Regarding Claim 23

Claim 23 is rejected for the same reasons as claims 1.

Regarding Claim 24

Claim 24 is rejected for the same reasons as claims 1.

9. Claim(s) 6-20 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over EUROEXPERT - Best Practices: French Social Security - UNEDIC dated 1992 in view of IEEE article – “An Introduction To Six Sigma With Design Example” by Robert White dated 1992, further in view of US Patent 6532465 issued to Hartley.

Regarding Claim 6

Disclosures for EUROEXPERT - Best Practices GATE model and by White are presented above. These references do not teach mapping between the 3 GATE domain layers (Claim 6) and presence of buses in the design (Claim 7 & 8). Also there is no mention of the real-time and batch processing systems (Claim 9).

Hartley discloses that mapping between the different layers can be present attain a business objective (Hartley: Col. 5 Lines 12-32). Hartley exemplifies the mapping between the presentation layer and business later in his Figure 4 (Hartley: Col 10, Lines 50-55, Lines 64-67). But it can be seen in Figure 4 that similar mapping existing between the layers below the business layer going down towards domain, (application layer) and database (physical database/technological representation layer) (Hartley: Col. 8 Lines 11-16).

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to use the layering approach, communication strategy and real-time/batch processing taught by Hartley and apply them to White/EUROEXPERT references. The motivation would be a design, which is abstract enough than can handle new business requirements without significantly

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changing the underlying architecture, and specific enough that the business layer can provide rule based processing by passing in metadata. Hence, the business model would be extremely adaptive to changing business, application & technological requirements.

Regarding Claim 7 & 8

Disclosures for EUROEXPERT - Best Practices GATE model and White do not teach presence of buses in the design.

Hartley disclose message buses (Hartley: Col. 11, Lines 4648, 63-65) as means for interfacing between different layers, in broader terms buses are considered to be data conduits between different layers. Hartley explains that these layers may be located on different machine with object layers providing communication (Hartley: Col 10, Lines 24-31).

Regarding Claim 9

Disclosures for EUROEXPERT - Best Practices GATE model and White do not teach real-time and batch processing systems.

Hartley exemplarily discloses applications design that respond in real time (Hartley: Col. 13, Lines 24-31) and another one, which is, batch process driven. Batch processing example disclosed is collection of customer charges (Hartley: Col. 17 Lines 58-68) & batch report generation (Hartley: Col. 19, Lines 18-23).

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Regarding Claim 10

White discloses taking other models and values for the subcomponents to enhance performance and meet performance (White: Pg 34, Col. 1, F Step 5, Line 1-8 & Table V).

Regarding Claim 11

Claim 11 is rejected for the same reasons as claims 1, 2 & 9 are rejected. Further Hartley discloses a system that includes a rule-based engine (Hartley: Abstract Lines 12-15). The output module is the claim is equivalent to batch output component that is disclosed in Claim 9.

Regarding Claim 12

Claim 12 is rejected for the same reasons as claims 1, 2.

Regarding Claim 13

Claim 13 is rejected for the same reasons as claims 1, 2.

Regarding Claim 14

Claim 14 is rejected for the same reasons as claims 1.

Regarding Claim 15

Claim 15 is rejected for the same reasons as claims 5.

Regarding Claim 16

Claim 16 is rejected for the same reasons as claims 6.

Regarding Claim 17 & 18

Claim 17 & 18 are rejected for the same reasons as claims 7 & 8.

Regarding Claim 19

Claim 19 is rejected for the same reasons as claims 9.

Regarding Claim 20

Claim 20 is rejected for the same reasons as claims 10.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akash Saxena whose telephone number is (571) 272-8351. The examiner can normally be reached on 8:30 - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached on (571)272-3780. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JEAN P. HOMERE
PRIMARY EXAMINER